CONTENTS

Volume 19, Issue Nos. 1–12 (1994)

International Journal for
NUMERICAL METHODS IN FLUIDS

Issue No. 1, 15 July

REFEREES FOR 1994 iii

Two-phase Flow Modelling in Gas-stirred Liquid Vessels with SUPG-stabilized Equal Order Interpolations: N. Nigro, M. Storti and S. Idelsohn 1

Multilevel Methods for Temporal and Spatial Flow Transition Simulation in a Rough Channel: Z. Liu, Z. Liu, C. Liu and S. McCormick 23

Newton's Method for Solving Heat Transfer, Fluid Flow, and Interface Shapes in a Floating Molten Zone: C. W. Lan 41

Iterative Solution Techniques for the Stokes and Navier-stokes Equations: A. Ramage and A. J. Wathen 67

CONFERENCE DIARY 85

ANNOUNCEMENTS 87

Issue No. 2, 30 July

Numerical Modelling and Computation of Fluid Pressure Transients with Air Entrainment in Pumping Installations: T. S. Lee 89

Numerical Simulation of Cooling-induced Convective Currents on a Littoral Slope: G. M. Horsch, H. G. Stefan and S. Gavali 105

Control Volume Finite Element Solution of Confined Turbulent Swirling Flows: D. Elkaïm, F. McKenty, M. Reggio and R. Camarero 135

Simulation of Impacts of Fluid Free Surfaces with Solid Boundaries: D. B. Johnson, P. E. Raad and S. Chen 153

CONFERENCE DIARY 177

ANNOUNCEMENTS 179

Issue No. 3, 15 August

An Integrated Modelling System for Coastal Area Dynamics: K. A. Klevanny, G. V. Matveyev and N. E. Voltzinger 181

Finite Element Analysis of the Axially Symmetric Motion of an Incompressible Viscous Fluid in a Spherical Annulus: W. Ni and N. J. Nigro 207

Indexed or abstracted by 'Applied Mechanics Reviews', 'BHRA Fluid Engineering Centre', 'Boundary Elements Abstracts', 'Cambridge Scientific Abstracts', 'Chemical Abstracts', 'CITIS—Civil Engineering Abstracts', 'Compumath Citation Index Institute for Scientific Information (ISI)', 'Current Contents (CC)/Eng. Tech & Applied Sciences', 'Engineering Index', 'Eng. Societies Library', 'Geographical Abstracts: Physical Geography', 'Geological Abstracts', 'INSPEC', 'Mathematical Reviews', 'Mechanics', 'Newsletter of Eng. Analysis Software', 'Research Alert (ISI)', 'SCISEARCH Database (ISI)', and 'Zentralblatt für Mathematik'.

Dispersion Under Neutral Atmospheric Conditions: J. P. Glekas and G. C. Bergeles 237

A Partially Implicit Method for Simulating Viscous Aerofoil Flows: K. J. Badcock 259

CONFERENCE DIARY 269

ANNOUNCEMENTS 271

Issue No. 4, 30 August

A Method for Finite Element Parallel Viscous Compressible Flow Calculations: L. C. Dutto, W. G. Habashi, M. P. Robichaud and M. Fortin 275

Development of the Direct Stress Solution Technique for Three-dimensional Hydrodynamic Models Using Finite Elements: R. A. Luettich Jr., S. Hu and J. J. Westerink 295

Simulation of Three-dimensional Unsteady Viscous Free Surface Flow Around a Ship Model: B. Alessandrini and G. Delhommeau 321

Boundary Element Method for Steady 2D High-Reynolds-number Flow: Z. Rek and L. Škerget 343

CONFERENCE DIARY 363

ANNOUNCEMENTS 365

Issue No. 5, 15 September

Exact Fully 3D Navier–Stokes Solution for Benchmarking: C. R. Ethier and D. A. Steinman 369

Numerical Simulation of a Low-Reynolds-number Turbulent Wake Behind a Flat Plate: P. R. Voke and S. G. Potamitis 377

Computation of Free Surface Waves Around an Arbitrary Body by a Navier–Stokes Solver Using the Pseudocompressibility Technique: H. Liu and M. Ikehata 395

Stability of a Numerical Algorithm for Gas Bubble Modelling: M. R. Barkhudarov and S. B. Chin 415

Fully Coupled Finite Volume Solutions of the Incompressible Navier–Stokes and Energy Equations Using an Inexact Newton's Method: P. R. McHugh and D. A. Knoll 439

CONFERENCE DIARY 457

ANNOUNCEMENTS 459

Issue No. 6, 30 September

Gradient Method of Optimal Control Applied to the Operation of a Dam Water Gate: M. Kawahara and Y. Shimada 463

Numerical Investigation of Leading Edge Separated Flow Over Cranked Wings using a Vortex Lattice Model: G. Bandyopadhyay 479

Entrance Flow in Eccentric Annular Ducts: K. Velusamy and V. K. Garg 493

Finite Element Solution of the Stream Function-vorticity Equations for Incompressible Two-dimensional Flows: G. Comini, M. Manzan and C. Nonino 513

Upstream Monotonic Interpolation for Scalar Transport with Application: F. S. Lien and M. A. Leschziner 527

CONFERENCE DIARY 549

ANNOUNCEMENTS 551

Issue No. 7, 15 October

EDITORIAL iii

Numerical Simulation Method for Viscoelastic Flows with Free Surfaces—Fringe Element Generation Method: T. Sato and S. M. Richardson 555

A Numerical Approach to Model Non-isothermal Viscous Flow Through Fibrous Media with Free Surfaces: M. V. Bruschke and S. G. Advani 575

A New Fully Coupled Solution of the Navier–Stokes Equations: G. B. Deng, J. Piquet, P. Queutey and M. Visonneau 605

CONFERENCE DIARY 641

ANNOUNCEMENTS 643

Issue No. 8, 30 October

Prediction of Thermal Stratification in a Curved Duct with 3D Body-fitted Co-ordinates: S. Ushijima 647

A Characteristic-based Method for Incompressible Flows: D Drikakis, P. A. Govatsos and D. E. Papantonis 667

Instability of Uniform Flow: M. Renardy 687

Effective Downstream Boundary Conditions for Incompressible Navier–Stokes Equations: C. H. Bruneau and P. Fabrie 693

A Data-Parallel Approach to Multiblock Flow Computations: M. L. Sawley and J. K. Tegnér 707

Numerical Investigation of Dynamic Stall of an Oscillating Aerofoil: W. H. Guo, D. X. Fu and Y. W. Ma 723

CONFERENCE DIARY 735

ANNOUNCEMENTS 737

Issue No. 9, 15 November

Grid Adaptation Using a Distribution of Sources Applied to Inviscid Compressible Flow Simulations: N. P. Weatherill, M. J. Marchant, O. Hassan and D. L. Marcum 739

Computation of Unsteady Laminar Viscous Flow Past an Aerofoil Using the CPI Method: G. B. Deng, E. Guilmineau, J. Piquet, P. Queutey and M. Visonneau .. 765

An Element Level Zero-divergence Finite Element Approach: A. N. F. Mack 795

Simulation of Supersonic Flows with Detached Shocks Using a Property Convection Method: J. F. Milthorpe 815

TVD Algorithms for the Solution of the Compressible Euler Equations on Unstructured Meshes: P. R. M. Lyra, K. Morgan, J. Peraire and J. Peiró 827

An Unstructured Grid Algorithm for the Solution of Maxwell's Equations in the Time Domain: K. Morgan, O. Hassan and J. Peraire 849

CONFERENCE DIARY 865

ANNOUNCEMENTS 867

Issue No. 10, 30 November

Prediction of Turbulent Wall Shear Flows Directly from Wall: S.-Y. Jaw and R. R. Hwang 869

A Numerical Method for Accelerating the Rate of Convergence of the Simple-like Algorithm for Flow through a Thin Filter: X. Wen and D. B. Ingham 889

Dynamic Vorticity Condition: Theoretical Analysis and Numerical Implementation: J.-Z. Wu, X.-H. Wu, H.-Y. Ma and J.-M. Wu 905

Computation of Confined Coflow Jets with Three Turbulence Models: J. Zhu and T.-H. Shih 939

CONFERENCE DIARY 957

ANNOUNCEMENTS 959

Issue No. 11, 15 December

Numerical Predictions of the Bifurcation of Confined Swirling Flows: T. L. Jiang and C.-H. Shen 961

Pressure-based Method for Combustion Instability Analysis: Y. M. Kim, Z. J. Chen, C. P. Chen and J. P. Ziebarth 981

Efficient Higher-order Backward Characteristics Schemes for Transient Advection: T. S. Yu and C. W. Li 997

Development of Projection and Artificial Compressibility Methodologies using the Approximate Factorization Technique: A. Pentaris, K. Nikolados and S. Tsangaris 1013

Fully Discrete Arbitrary-order Schemes for A Model Parabolic Equation: J. Shi .. 1039

CONFERENCE DIARY 1049

ANNOUNCEMENTS 1051

Issue No. 12, 30 December

Three-dimensional Modelling of Stream Flush for DNAPL Site Remediation: P. A. Forsyth 1055

Finite Element Calculations and Experimental Verification of the Unsteady Potential Flow in a Centrifugal Volute Pump: R. Badie, J. B. Jonker and R. A. Van den Braembussche 1083

A Semi-collocated Ocean Model Based on the SOMS Approach: D. E. Dietrich and D.-S. Ko 1103

Simultaneous Solution of the Navier–Stokes and Elastic Membrane Equations by a Finite-element Method: M. P. Rast 1115

CONFERENCE DIARY 1137

ANNOUNCEMENTS 1139

Author Index 1143

Key Word Index 1145